The Commonwealth of Massachusetts
Department of Environmental Quality Engineering
Metropolitan Boston Northeast Region
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August 27, 1984

MEMORANDUM FOR THE RECORD

BY: Stephen M. Johnson, Environmental Scientist

THRU: John Fitzgerald, Principal Sanitary Engineer

DATE: August 27, 1984

SUBJECT: NEWTON - TRW, DOT DIVISION

On July 2, 1984, the writer visited the TRW facility on the corner of Watertown and Nevada Streets in Newton, MA, for the purpose of a site investigation, pursuant to 3012 contract obligations. The following TRW personnel attended the site visit and supplied site history/information:

Mr. John Searle - plant manager from 1966 to 1972

Mr. Dennis Borsuk - TRW'S Environmental Manager.

SITE DESCRIPTION:

TRW is located in a predominantly residential section of Newton less than one-half mile south of the Charles River. To the north, "Silver Lake", which is adjacent to the TRW site, has been filled in over the years and can now be best described as a small, marshy, low area. On the west are several businesses, with the rest of the area very densely settled with residences. The on-site structures consist of a large, 4-story brick manufacturing building with a brick warehouse attached, and a one story building which housed some offices and some manufacturing operations. The site, located in the USGS Newton Quadrangle, is very flat and the direction of the surface and subsurface flow is unknown at this point. Regional flow, however, is north, in the direction of the Charles River.

WASTE GENERATION:

The facility is currently inactive, but once was the location of electroplating and other manufacturing processes by TRW from 1938 to 1983. Before 1938, the site was a rope manufacturing plant, but records of any waste generation are not available. Electroplating operations involved Zn, Cu, Cd, and other metals. Plastic molding, performed in the one-story building, required cooling water for 30 machines that was derived from an on-site bedrock well. The plastic molding process did not generate hazardous wastes.

A large stack exists on-site servicing an old incinerator. Mr. Searle attests that the incinerator was not used since his arrival at TRW in 1966.

and did not know when it was last used. He did, however, suggest that cinders generated from the past use of the incinerator might be part of the fill material that was found on site.

SITE INSPECTION:

Prior to the site inspection, several measures had been taken by TRW to clean the facility in preparation for selling the property. An environmental cleanup company was contracted to sandblast the walls in the electroplating rooms which were contaminated with cyanide. The origin of the cyanide is thought to be from the formation of cyanide gas from the acidic plating baths, or from spashes from these same baths. All sandblasted materials were sent to CECOS Secure Management Facility in Niagra Falls, N.Y., for disposal.

In addition to the cyanide decontamination effort, a shallow, brick-encased well (EW1) located in the former plating area was found to be highly contaminated with heavy metals and lesser levels of volatile organic compounds and cyanide. The well was pumped and the water and sediments removed. This well has a 2 1/2' foot by 2 1/2 foot opening to it, and all evidence indicates that it was used to dispose of plating wastes and possibly other materials as well.

Upon inspection of the facility, two electroplating rooms were identified in the first floor of the large four-story brick building. Each of these plating rooms had a drainage manhole in the floor containing discolored liquid and sludge. The concrete floor was rutted around these manholes, possibly indicating that acidic plating liquids had drained into them. A vapor degreaser was once in use in the plating room using trichloroethylene as the solvent for degreasing. There were not other hazardous waste generating processes in this building according to Mr. Borsuk. At the time of inspection, the building had been cleaned out.

This four-story brick building was connected to a smaller brick building that had been used for assembly and storage purposes. Again, no hazardous waste generating activities went on in this building and it had been vacated in anticipation of being sold.

The last building on-site housed a plastics-molding process that employed 30 molding machines. TRW drilled a 150' bedrock well to use for cooling water for these machines. This well, of very high yield, was once located outside the building on the north side, but due to an addition, is now indoors. The area that is now the parking lot outside these buildings was built up by solid fill. The composition of this fill is unknown, however, and may contain various hazardous and/or waste materials.

GOETECHNICAL STUDIES:

A site investigation of the TRW facility was performed in November, 1982, by EG & G Environmental Consultants for the purpose of identifying the presence and extent of on-site contamination. Their findings indicated contamination of EW1, the shallow, brick-encased well, with cyanide, TCE, t-1,2-dichloroethylene and numerous heavy metals (Cd, Zn, Cr, Cu, Ag, Ni, Be). In addition, the 150' well, EW3 contained 2000 ppb t-1,2-dichloroethylene. Water samples at five observation wells produced lesser amounts of these contaminants. On-site soil

3.

samples showed levels of vinyl chloride and methylene chloride, as well as the contaminants identified in the wells. Additional questions not addressed in the EG & G report spurred further inviestigation in August, 1984, by Camp Dresser & McKee, Inc., environmental consultants. A ground penetrating rador survey identified several areas of possible waste disposal in the rear of the TRW property. Water samples of the same wells sampled by EG & G revealed lower levels of volatile organic compounds. It was evident, from the information generated by these two studies, that the site was somewhat contaminated by solvents and more highly contaminated with heavy metals.

CONSLUSION:

On the basis of the site inspection by DEQE personnel, and the information presented in the two geotechnical reports, several remedial measures were requested by the Department:

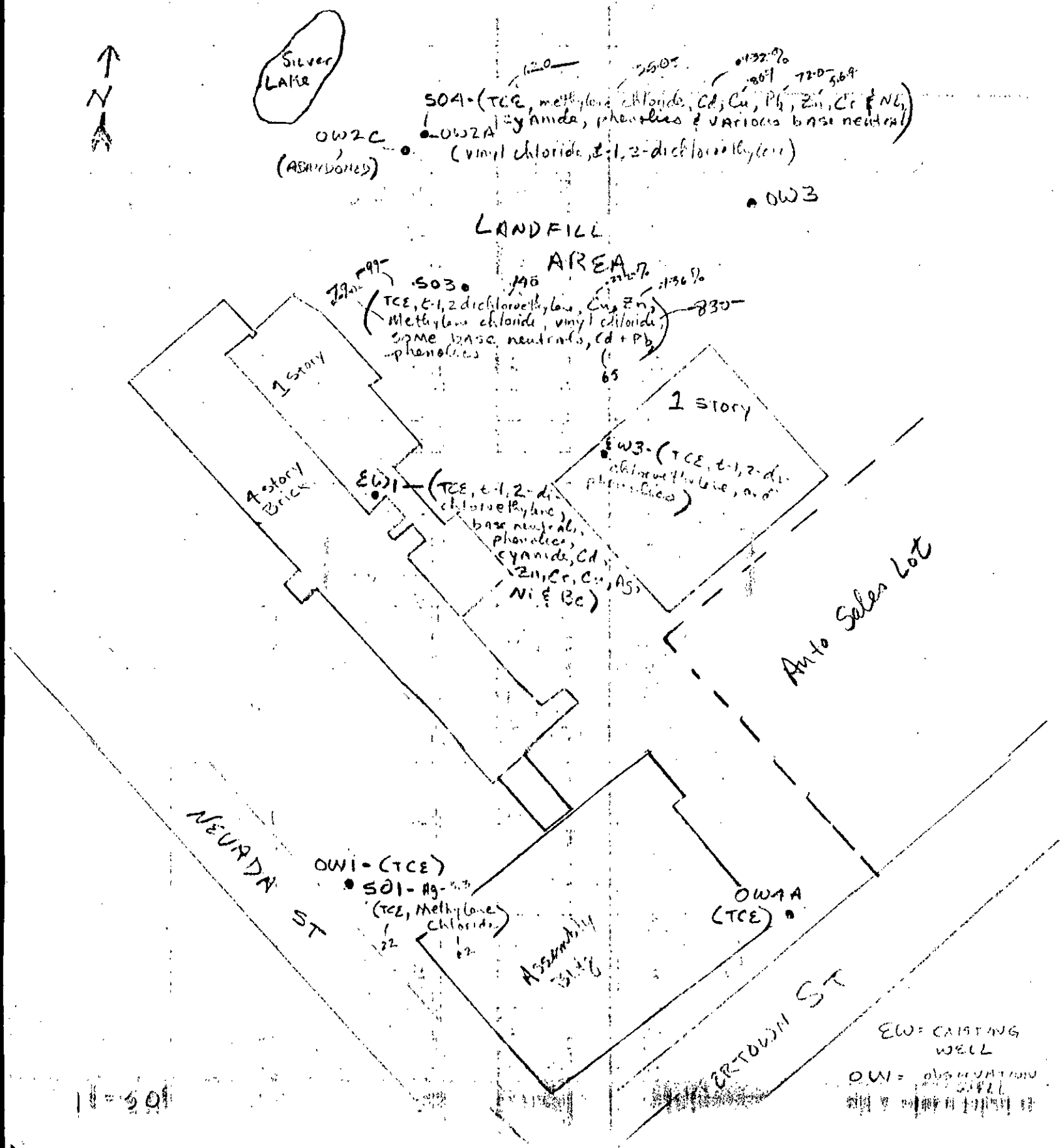
1. Any liquid that has recharged into the shallow, brick-encased well (EW1) should be pumped out along with associated sediments. The well should then be filled and brought to grade.

2. The manhole in the former electroplating rooms containing contaminated liquids and sludges should be pumped and cleaned.

3. Backhoe excavation in one of the areas of "possible waste disposal" that correlated with a soil boring in the parking lot that was found to be contaminated, has been requested. Unearthing this area will hopefully shed light on the composition of these areas of "possible waste disposal" that were identified by the radar survey.

In addition to these recommendations, further investigation into the source(s) and possible receptors of the deep well (EW3) will be undertaken.

* only VOC Analysis done on observation wells.



TRW [illegible]OT DIVISION
[illegible] Watertown St - NEWTON

- Cyanide 170 to 510 ppm
decontam by CECOS - sand blasting? Asbestos piping shipped out; 1500 Gal TCE tank cleaned; no data on cyanide decontam.
- [CDM looking at EG+G report
[Rick Hughto from CDM will call] → wastes: Fool,

- EG+G:
Contam in Silver Lake?
EW1 - well - contam w. VOC's, cyanide & metals "~~pumped & cleaned~~"
~~can this be adequately done~~?
EW3 - well - VOC's, phenolics, - A 150' GW well
Soil in parking lot - VOC's, phenolics, base neutrals + metals.
One soil sample had cyanide.

GW Analysis: from one existing well & 5 monitoring wells
VOC's in 2 wells, EW3 and and OW4A

The "upper aquifer contains industrial metal & soil wastes" - pg viii
CDM - tell us the GW flow; EG+G couldn't

"The source is not the contam soil ...." pg ix - is the peat layer continuous?? - only [illegible]

Were soil & water samples representative? Were they taken with any sampling plan in mind?

Let's see the "additional sampling program" of former metal plating building. Results were [illegible] to Davis, Malm & D'Agostine - TRW lawyers

2.1 "Landfill" - what was dumped? Sanitary?
Log of holes for soil samples - where are they

low GW flow prevents flushing.

Soil - SO1 - TCE, methylene chloride, phenolics ← the "control" well?
SO3 + SO4 had even more contaminants

150' well - EW3 - contaminated ... EW1 - contaminated.
[illegible]